What is claimed is:

1. A load port transfer device, for delivering a wafer carrier along an overhead conveying system, including:

a load port;

a path, having vertical and horizontal components, the vertical component having a top portion connected to the horizontal component beside the overhead conveying system and a bottom portion extending from the load port; and

a robot, movably disposed on the path to transfer the wafer carrier between the load port and the overhead conveying system.

2. The load port transfer device as claimed in claim 1, wherein the path is L-shaped.

3. The load port transfer device as claimed in claim 1, wherein the horizontal component is located above the overhead conveying system.

4. The load port transfer device as claimed in claim 1, wherein the robot further includes a moving mechanism, disposed within the path and a holding mechanism, disposed on the moving mechanism to maintain the wafer carrier in a horizontal position.

5. The load port transfer device as claimed in claim 4, wherein the holding mechanism having first and second ends, wherein the first end is removably connected

to the wafer carrier and the second end is movably connected to the moving mechanism.

6. The load port transfer device as claimed in claim 5, wherein the first end is gripper-shaped to grasp the wafer carrier.

7. The load port transfer device as claimed in claim 4, wherein the moving mechanism is a roller.

8. The load port transfer device as claimed in claim 4, wherein the moving mechanism is a gear wheel.

9. The load port transfer device as claimed in claim 4, wherein the moving mechanism is a chain.

10. The load port transfer device as claimed in claim 4, wherein the moving mechanism is a timing belt.

11. The load port transfer device as claimed in claim 4, wherein the moving mechanism is a curtain slat.

12. The load port transfer device as claimed in claim 4, wherein the moving mechanism is a wire.

13. A load port transfer device, for delivering a wafer carrier to a conveying system, comprising:

a load port;

a path, having vertical and horizontal components, the vertical component having a top portion beside the conveying system and a bottom portion, extending from the load port; and

a robot, including a moving mechanism movably disposed on the path to transfer the wafer

carrier between the load port and the conveying system, and a holding mechanism having a first end holding the wafer carrier and a second end disposed on the moving mechanism.

14. The load port transfer device as claimed in claim 13, wherein the horizontal and the vertical components form an L-shape.

15. The load port transfer device as claimed in claim 13, wherein the first end is gripper-shaped to grasp the wafer carrier.

16. The load port transfer device as claimed in claim 13, wherein the moving mechanism is a roller.

17. The load port transfer device as claimed in claim 13, wherein the moving mechanism is a gear wheel.

18. The load port transfer device as claimed in claim 13, wherein the moving mechanism is a chain.

19. The load port transfer device as claimed in claim 13, wherein the moving mechanism is a timing belt.

20. The load port transfer device as claimed in claim 13, wherein the moving mechanism is a curtain slat.

21. The load port transfer device as claimed in claim 13, wherein the moving mechanism is a wire.

22. An intra-bay delivery system comprising:

a wafer carrier;

a load port supporting the wafer carrier;

a conveyor, disposed above the load port;

a rail having vertical and horizontal components, wherein the vertical component extends from the load port and the horizontal component is located above the conveyor; and

a robot including a roller movably disposed on the rail to transfer the wafer carrier between the load port and the conveyor and a holding portion having a first end holding the wafer carrier and a second end disposed on the roller, wherein the first end holding the wafer carrier is a flange.